REMARKS

No claims are amended and claims 1 – 8, 10 – 32, 36 and 37 are pending and reconsideration of those claims is requested.

In an earlier office action dated April 10, 2007 during this prosecution, the Examiner rejected then pending claim 1 as being unpatentable over Jones et al (US 4,831,509) in view of Wrenbeck et al (US 5,436,5390) having a filing date of August 30, 1993. In the amendment filed June 20, 2007, applicants argued that the language in then pending claim 1 (as well as claims 2, 6, 12, 19, 20 28 and 33) was supported by the specification in US patent 5,334,876 having an April 22, 1992 filing date and from which the present application claims priority. In the office action of October 31, 2007, the Examiner acknowledged the claims were supported in the specification of the '876 patent to Washeleski et al and the rejection based on Wrenbeck et al was withdrawn. That office action states "the applicant argued that Wrenbeck et al were not prior art. The Examiner agrees."

Claims 1, 2, 19, 28 and 30 were amended subsequent to the October 31, 2007 office action, more specifically, the amendment filed January 10, 2008 made changes to these claims. Independent claims 6, 12, and 19 have not been amended since the October 31, 2007 office action and therefore the Examiner's conclusion regarding support for these claims in the '876 patent specification still applies. Those claims that were amended are still supported as the following claim chart shows. The additions to claims1, 2, 19, 28, and 30 that were made after the October 31, 2007 office action are underlined.

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT
1	Apparatus for controlling motion of a motor driven element (1A) in a vehicle over a range of motion and for altering said motion (1B) when undesirable resistance to said motion is encountered (1C), said apparatus comprising:	1A. Window or Panel Col. 2, Line 40; 1B. Range of Motion Col. 5, Lines 60 – Col. 6, Line 9; 1C. Motor de-energized Col. 6, Lines 65-66.

1(a)	a) a sensor (1D) for measuring a parameter of a motor coupled to the motor driven element that varies in response to a resistance to motion during all or part of a range of motion of the motor driven element;	1D. Op-amp 110, Col. 5, Line 19
1(b)	a memory (1E) for storing a number of measurements values from the sensor based on immediate past measurements of said parameter over at least a portion of a present traversal (1F) of said motor driven element through said range of motion	1E. Control Circuit with memory that compares sensed motor current with calibrated current Col. 1, Lines 65-66 -- see also Col. 6, Lines 20-24 1F. col 6, line 46-63
1(c)	a controller (1G) coupled to the memory for determining to de-activate the motor based on a most recent sensor measurement of the parameter and the immediate past measurement values stored in the memory obtained during a present run through the motor driven element range of motion	1G. Control circuit determines 'compare value' at col 6, line 62 and the motor is de-energized if presently sensed current is greater than the 'compare value', col 6, line 64-66. The sensed value is compared against a template. For soft obstacle detection, if the sensed value is within a window of the template threshold, the template is updated using the sensed value. Col. 6, lines 12-40. For hard obstacle detection, the sensed current is evaluated against a compared value that is a function of a reading of the motor current every two milliseconds and stored as a first in, first out. Col. 6, lines 41-66. This constitutes a value obtained during a present run through the motor drive element range of motion.

1(d)	d) a controller interface (1H) coupled to the motor for altering motion of said motor driven element during the present run in response to a determination made by the controller.	1H. Field effect transistor 20 Col. 2, Line 53. If the current values of the sensed current is greater than the compare value, an obstruction flag is set and the motor is de-energized. Col. 6, Lines 64-66.

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT
2	A method for controlling motion of a motor driven element (2A) in a vehicle over a range of motion (2B) and for altering said motion when undesirable resistance to said motion is encountered (2C), said method comprising:	2A. Window or Panel Col. 2, Line 40; 2B. Range of Motion Col. 5, Lines 60 – Col. 6, Line 9; 2C. Motor de-energized Col. 6, Lines 65-66.
2(a)	a) measuring a parameter (2D) of a motor (2E) coupled to the motor driven element that varies in response to a resistance to motion during all or part of a range of motion of the motor driven element (2F) by taking a multiplicity of measurements (2G) as the motor moves the motor driven element over its range of motion;	2D. Voltage drop corresponds to current, Col. 5, Lines 15-16; 2E. motor 12, Col. 5, Line 14; 2F. current used to sense obstruction Col. 6, Lines 36-40; 2G. current measured every two milliseconds Col. 6, Line 24;

2(b)	b) storing a number of measurement values (2H) based on measurements of said parameter over an immediate past portion of a present run through said range of motion;	2H. FIFO buffer, Col. 6, Line 50 For hard obstacle detection, the sensed current is evaluated against a compared value that is a function of a reading of the motor current every two milliseconds and stored as a first in, first out. The data stored in the FIFO buffer is twenty values deep, allowing the controller to look back in time 40 milliseconds. Col. 6, lines 41-66. This is a parameter that is measured during an immediate past portion of the present run through the range of motion.
2(c)	c) determining that (2I) the parameter is outside a parameter range based on stored measurement values obtained during the immediate past portion as the motor driven element moves over its range of motion; and	2I. comparing sensed with compare value from equation Col. 6, Line 64. The sensed value is compared against a template. For soft obstacle detection, if the sensed value is within a window of the template threshold, the template is updated using the sensed value. Col. 6, lines 12-40. For hard obstacle detection, the sensed current is evaluated against a compared value that is a function of a reading of the motor current every two milliseconds and stored as a first in, first out. Col. 6, lines 41-66.
2(d)	d) altering motion of said motor driven element during the present run in response to a determination that the parameter is outside the parameter range (2J).	2J. Stop motor, Col. 6, Line 65 If the current values of the sensed current is greater than the compare value, an obstruction flag is set and the motor is de-energized. Col. 6, Lines 64-66.

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT

6	Apparatus for controlling activation of a motor coupled to a motor vehicle window or panel (6A) for moving said window or panel along a travel path (6B) and de-activating the motor if an obstacle is encountered (6C) by the window or panel, said apparatus comprising:	6A. Window or panel, col 2, line 40 6B. Range of motion, col 5, line 60-col 6, line 9 6C. Motor de-energized, col 6, line 66
6(a)	a) a sensor (6D) for sensing movement of the window or panel and providing a sensor output signal related to a speed of movement of the window or panel;	6D. Phase inputs 72, 74 from shaft encoder, col 3, line 44
6(b)	b) a switch (6E) for controllably actuating the motor by providing an energization signal; and	6E. FET 20, or relay 30, 32, Col 2, line 64
6(c)	c) a controller (6F) having an interface coupled to the sensor and the switch for controllably energizing the motor; said controller sensing a collision with an obstruction when power is applied to the controller by:	6F. Controller 22, col 2, line 55
6(c)(i)	i) monitoring movement of the window or panel by monitoring a signal (6G) from the sensor related to the movement of the window or panel;	6G. Position encoder, col 4, line 16 Col 6, line 14, absolute position of the sunroof, and the speed at which the roof is traveling. Col 6, lines 39-40 response time of the algorithm versus the speed of the sunroof.
6(c)(ii)	ii) adjusting (6H) an obstacle detection threshold in real time (6I) based on immediate past measurements of the signal sensed by the sensor to adapt to varying conditions encountered during operation of the window or panel;	6H. after the first 50 ms, col 7 line 28 6I. 50ms – 450 ms, col 7, lines 28-34

6(c)(iii)	iii) identifying a collision (6J) of the window or panel with an obstacle due to a change in the signal from the sensor that is related to a change in movement of the window or panel by comparing a value based on a most recent signal from the sensor with the obstacle detection threshold; and	6J. Controller detects an obstruction using rate of speed of motor, col 7, line 33
6(c)(iv)	iv) outputting a control signal to said switch to deactivate (6K) said motor in response to a sensing of a collision between an obstacle and said window or panel.	6K. Motor re-energized, col 4, line 44

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT
12	Apparatus for controlling activation of a motor for moving an object along a travel path (12B) and (12A) de-activating the motor if an obstacle is encountered by the object comprising:	12A. Window panel, col 1, line 44 12B. Obstacle, col 4, line 44
12(a)	a) a movement sensor for (12C) monitoring movement of the object as the motor moves said object along a travel path;	12C. Movement sensor, position encoder, col 4, line 16
12(b)	b) a switch (12D) for controlling energization of the motor with an energization signal; and	12D. Switch relay 30, 32, col 2, line 64
12(c)	c) a controller (12E) including an interface coupled to the switch for controllably energizing the motor and said interface additionally coupling the controller to the movement sensor for monitoring signals from said movement sensor; said controller comprising a stored program that:	12E. Controller 22, col 2, line 55
12(c)(i)	i) determines motor speed of movement from an (12F) output signal from the movement sensor ;	12F. Motor speed, rate of change of pulses, col 3, line 59

12(c)(ii)	ii) calculates an obstacle detect (12G) threshold based on motor speed of movement detected during a present run of said motor driven element ;	12G. Obstacle detect motor speed, col 7, line 33
12(c)(iii)	iii) compares a value based on (12H) currently sensed motor speed of movement with the obstacle detect threshold; and	12H. Col 7, line 33
12(c)(iv)	iv) outputs a signal from the interface (12I) to said switch for stopping the motor (12J) if the comparison based on currently sensed motor movement indicates the object has contacted an obstacle.	12I. Interface, col 4, line 1 12J. Stopping motor, braking effect, col 4, line 13

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT
19	Apparatus for controlling activation of a motor for moving a window or panel (19A) along a travel path (19B) and de-activating the motor if an obstacle is encountered (19C) by the window or panel comprising:	19A. Window or panel col 2, line 40 19B. Travel path, col 5, line 60-col 6, line 9 19C. De-activating motor, col 6, line 65-66
19(a)	a) a sensor (19D) for sensing movement of a window or panel along a travel path;	19D. Op amp 110, col 5, line 19
19(b)	b) a switch (19E) for controlling energization of the motor with an energization signal; and	19E. FET 20, col 2 line 53
19(c)	c) a controller (19F) coupled to the switch for controllably energizing the motor and having an interface coupling the controller to the sensor and to the switch; said controller comprising decision making logic for:	19F. Controller 22, col 2 line 55

19(c)(i)	i) monitoring a signal from the sensor;	
19(c)(ii)	ii) calculating a real time obstacle detect threshold (19G) based on the signal that is detected during at least one prior period of motor operation during movement along a present or current run through a path of travel of said window or panel;	19G. Equation at col 6, line 62 The compare value algorithm reads the motor current every two milliseconds and is stored in a FIFO buffer. Col. 6, Lines 46-50. This is a signal that is detected along a present or current run through a path of travel of the window or panel.
19(c)(iii)	iii) comparing (19H) a value based on a currently sensed motor parameter with the obstacle detect threshold; and	19H. Comparing, col 6, line 65
19(c)(iv)	iv) stopping movement (19I) of the window or panel by controlling an output to said switch that controls motor energization if the comparison based on a currently sensed motor parameter indicates the window or panel has contacted an obstacle.	19I. Stopping movement, col 6, line 65-66.

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT
20	Apparatus for controlling activation of a motor for moving a window or panel (20A) along a travel path (20B) and de-activating the motor if an obstacle is encountered by the window or panel comprising:	20A. Window or panel, col 2, line 40 20B. Range of motion, col 5, line 60-col 6, line 9
20(a)	a) a sensor (20C) for generating speed signals representative of the window or panel speed as the motor moves the window or panel along a travel path;	20C. Encoder, col 4, line 16, col 3, line 44

20(b)	b) an obstacle detection controller (20D) for monitoring at least a part of the travel path of the window or panel for sensing and generating an obstacle detect signal indicating the presence in said travel path of an obstacle to movement of the window or panel;	20D. Controller 22, col 2, line 55
20(c)	c) a switch (20E) coupled to said controller for controlling energization of the motor with an energization signal; and	20E. FET 20, or relay 30, 32 col 2, line 64
20(d)	d) said controller for processing speed signals and obstacle detection signals (20F) and controlling operation of the motor in response to said speed or obstacle detection signals; said controller including:	20F. Preferred controller is microprocessor having central processing unit, col 2, line 55
20(d)(i)	i) a storage (20G) for storing a number of speed signals that vary with motor speed;	20G. Microprocessor 22 has storage for storing speed signals shown in Figure 5, col 3, line 59
20(d)(ii)	ii) a processor (20H) for calculating an obstacle detect threshold based on one or more speed signals stored in said storage obtained in real time (20I) based on immediate past measures of the speed signal sensed by the sensor to adapt to varying conditions encountered during movement along a present path of travel of said window or panel;	20H. Processor 22 20I. 50ms – 450 ms, col 7, lines 28 – 34

20(d)(iii)	iii) a logic unit for making a comparison between a value representing window or panel speed (20J) based on a currently sensed motor speed (20K) with the calculated obstacle detect threshold, and generating a control output if an obstacle is detected based on said comparison; and	20J. Controller outputs controls to ramp up motor speed in controlled fashion col 7, line 30 20K. Sensed speed compared with expected based on controlled output, col7, line 33, 34
20(d)(iv)	iv) an interface (20L) coupled to said switch for changing the state of the switch to stop the motor.	20L. Controller interfaces with FET 20 or relay, col 2, line 65

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT
28	Apparatus for controlling activation of a motor coupled to a motor vehicle window or panel (28A) for moving said window or panel along a travel path (28B) and de-activating the motor when the window or panel is within an acceptable range of a predetermined position, said apparatus comprising:	28A. Window or panel, col 2, line 40 28B. Path described, col 5, line 60-col 6, line 9 28C. Deactivates at home position, col 5, line 65, col 6, line 1 The controller knows when the sunroof panel is in the closed position by monitoring an output 130 from hall effect sensor 132. Col. 5, Lines 61-63. Hall effect sensors are known for proximity sensing, therefore provide a range of detection. The controller 22 adjusts its operation for various lengths of travel (col 6, lines 1 and 2) and this feature also constitutes an acceptable range relative the parked position for de-activating the motor at its requested, open destination.

28(a)	a) a sensor (28D) for sensing movement of the window or panel and providing a sensor output signal related to a position (28E) of the window or panel;	28D. Hall sensor 132, col 5, line 63, and phase inputs 72, 74 from position encoder, col 3 line 44 28E. Home position, open position etc col 5, lines 60-68, col 6, line 1
28(b)	b) a switch for controllably actuating the motor by providing an energization signal (28F); and	28F. FET 20, col 2, line 53
28(c)	c) a controller (28G) having an interface coupled to the sensor (28H) and the switch for controllably energizing the motor; said controller determining the position of the window or panel when power is applied to the controller by:	28G. Controller 22, col 2, line 55 28H. Output from position encoder
28(c)(i)	i) monitoring the sensor output (28I) signal from the sensor related to the position of the window or panel;	28I. Controller monitors encoder output, col 3, line 44.
28(c)(ii)	ii) identifying the position of the window or panel based on the sensor output signal from the sensor; and	"The control circuit updates the profile of current vs. position as the window or panel is opened and closed" Col. 2, lines 6-7.
28(c)(iii)	iii) outputting a control signal to said switch to deactivate (28J) said motor in response to a sensing of said window or panel within the acceptable range.	28J. Controller stops the roof at the park, full open and vent positions, col 5, lines 59-col 6, line 9. The controller knows when the sunroof panel is in the closed position by monitoring an output 130 from hall effect sensor 132. Col. 5, Lines 61-63.

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT

30	The apparatus of claim 28 additionally comprising multiple position limits that define the acceptable range programmed for use by the controller to determine whether the window or panel is closed or open.	The controller knows when the sunroof panel is in the closed position by monitoring an output 130 from Hall Effect sensor 132. Col. 5, Lines 61-63. The sunroof panel is then moved to the full open position and the physical position is recorded. Col. 5, Lines 67-68 – Col. 6, Line 1.

CLAIM NO.	CLAIM LANGUAGE	SUPPORT IN 5,334,876 PATENT
33	Apparatus for controlling activation of a motor for moving a motor driven element in a vehicle (33A) over a range of motion (33B) and de-activating (33C) the motor when undesirable resistance to motion of the element is encountered, the apparatus comprising:	33A. Window or panel, col 2, line 40 33B. Range of motion, col 5, line 60-col 6, line 9 33C. De-activating motor, col 6, lines 65-66
33(a)	a) a sensor (33D) for sensing a speed of the motor and generating an output signal representative of a speed of the motor, a speed of the motor changing when undesirable resistance to motion of the element is encountered;	33D. Shaft encoder, col 3, line 44
33(b)	b) a switch (33E) for controlling activation of the motor; and	33E. FET 20, col 2, line 53
33(c)	c) a controller (33F) coupled to the sensor and the switch, the controller receiving the sensor output signal from the sensor and outputting a control signal to the switch to de-activate the motor if the sensor output signal indicates that the element has encountered undesirable resistance to motion.	33F. Controller 22, col 2, line 55

The July 23, 2008 patent office action rejects all independent claims based on the combination of Okuyama et al (US 4,608,637) and Bamford (EP 0581 509). The effective date of Bamford is its publication date, that is February 2, 1994. This date is well after the effective filing date (April 22, 1992) of U.S. Patent No. 5,334,876 (hereinafter "the '876 Patent) from which the present application claims priority. The specification of the '876 Patent fully supports the independent claims and dependent claim 30, including the amendments (underlined) from the response to the October 31, 2007 Office action, as indicated in the above claim chart. Therefore Bamford is not prior art and the rejection based on the combination of Okuyama et al and Bamford is traversed. For this reason independent claims 1, 2, 6, 12, 19, 20, and 28 and claims depending from those claims are allowable.

As noted in the amendment of January 10, 2008, Okuyama et al alone neither anticipates nor renders obvious the pending claims relating to real time obstruction detection. The Examiner agrees. At page 7 of the July 23, 2008 office action it is noted "Okuyama et al do not disclose storing immediate past measurements over a present traversal of the motor." Furthermore, the office action of May 30th, 2008 all independent claims now pending were allowed as being patentable over the Okuyama et al reference.

Other commentary regarding the July 23, 2008 office action

Applicant's stress that the claims are patentable in view of the removal of the Bamford published application as prior art. However, the July 23, 2008 office action interprets the prior art in ways that need clarification.

There are two situations disclosed in the '637 patent to Okuyama et al for stopping the motor. During normal operation, when the motor has driven the window to a so called goal position it is stopped. *See* col. 18, lines 35 – 40. A second condition for stopping the motor occurs when an overcurrent condition is sensed. The sensed motor current is compared with a table of stored values. *See* table 8 of Okuyama et al.

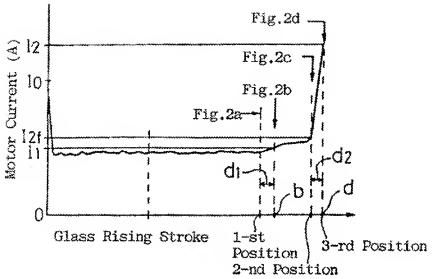
The Examiner's rejection of claim 1 articulated at page 2, second paragraph of

the July 23, 2008 office action states that the sensors 6a, 6ab *etc.* can be interpreted to be the sensors for measuring "a parameter of a motor" and then states that the Okuyama *et al.* patent at column 7, lines 49 –62 shows measuring this parameter as the parameter varies in response to a resistance to motion. As noted previously in this prosecution, the sensors 6a *etc.* of the '637 Okuyama et al patent generate pulses rather than providing a means for measuring a parameter.

The parameter Okuyama discusses at column 7, lines 49 – 62 is an overload current derived from an A/D converter. This motor current parameter is most definitely **not** monitored by the sensors 6a, 6ab etc to which the Examiner refers.

A memory is also referred to by the Examiner at page 2, paragraph 2 of the office action. The function of this memory is described at column 8, lines 51 – 64 and its contents are stored in table 6. This memory is for storing three positions per window (note since four windows are referenced, there are a total of 12 positions stored) in terms of counts from a zero position. Depending on the direction of motion, each pulse from the sensor (6a for example) increments or decrements a value corresponding to the then current position. The contents of table 6, i.e. 1st position, 2nd position and 3rd position, (*See* column 8, lines 51 – 64) are count totals (obtained from the sensor 6a for example) described in reference to Figure 3a which is reproduced below.

Fig.3a



The Examiner's reference to the parameter stored in this memory as being motor current is incorrect. These comments regard the interpretation of Okuyama et al also apply to independent claims 2 and 6 and dependent claims 3-5 and 7–11.

Claim 12 features apparatus for controlling activation of a motor to move an object along a travel path. The motor is de-activated if an obstacle is encountered by the object. A movement sensor monitors movement of the object as the motor moves the object along a travel path. A switch controls energization of the motor with an energization signal.

A controller has an interface coupled to the switch for controllably energizing the motor. The interface also couples the controller to the movement sensor to monitor signals from the movement sensor. The controller has a stored program that:

i) determines motor speed of movement from an output signal from the movement sensor ;

ii) calculates an obstacle detect threshold based on motor speed of movement detected during a present run of said motor driven element;

iii) compares a value based on currently sensed motor speed of movement with

the obstacle detect threshold; and

iv) outputs a signal from the interface to said switch for stopping the motor if the comparison based on currently sensed motor movement indicates the object has contacted an obstacle.

The Examiner asserts the italicized portion of claim 12 relating to a determination of motor speed is taught at col 7, lines 6 – 36 of Okuyama et al. Reading of this portion of the "637 patent fails to disclose this feature, nor does is suggest this feature. This is a completely independent basis, in additional to the above explanation that Bamford is not prior art to the pending claims, for the patentability of claim 12. Claims 13 – 18 depend from allowable claim 12 and are also allowable.

Claim 19 features apparatus for controlling activation of a motor for moving a window or panel along a travel path. The motor is de-activated if an obstacle is encountered by the window or panel. A sensor senses movement of a window or panel along a travel path. A switch controls energization of the motor with an energization signal. A controller coupled to the switch for controllably energizing the motor and having an interface coupling the controller to the sensor and to the switch. The controller comprises decision making logic for:

i) monitoring a signal from the sensor;

ii) *calculating a real time obstacle detect threshold based on the signal that is detected during at least one prior period of motor operation during movement along a present or current run along a path of travel of said window or panel ;*

iii) comparing a value based on a currently sensed motor parameter with the obstacle detect threshold; and

iv) stopping movement of the window or panel by controlling an output to said switch that controls motor energization if the comparison based on a currently sensed motor parameter indicates the window or panel has contacted an obstacle.

Since the Okuyama et al prior art patent neither shows nor suggested the italicized portion of the claim relating to a real time obstacle detection threshold, this claim is allowable.

Claim 20 features apparatus for controlling activation of a motor for moving a window or panel along a travel path and de-activating the motor if an obstacle is encountered by the window or panel. A sensor generates speed signals representative of the window or panel speed as the motor moves the window or panel along a travel path. An obstacle detection controller monitors at least a part of the travel path of the window or panel to sense and generate an obstacle detect signal indicating the presence in said travel path of an obstacle to movement of the window or panel. A switch coupled to said controller for controls energization of the motor with an energization signal.

The controller featured in claim 20 processes speed signals and obstacle detection signals and controls operation of the motor in response to said speed or obstacle detection signals. The controller has

i) a storage for storing a number of speed signals that vary with motor speed;

ii) a processor for calculating an obstacle detect threshold based on one or more speed signals stored in said storage obtained in real time based on immediate past measures of the speed signal sensed by the sensor to adapt to varying conditions encountered during movement along a present path of travel of said window or panel;

iii) a logic unit for making a comparison between a value representing window or panel speed based on a currently sensed motor speed signal with the calculated obstacle detect threshold, and generating a control output if an obstacle is detected based on said comparison; and

iv) an interface coupled to said switch for changing the state of the switch to stop the motor.

The '637 patent to Okuyama et al does not show or suggest the italicized features of claim 20. The only potential speed signals that are received are the pulses transmitted by the sensors 6a etc to the controller. These signals are not stored in memory, however, but are instead used to increment or decrement a position indicator that relates to the number of counts from a zero position for the window. For this additional reason, claim 20 is allowable.

Claims 21 – 27 depend from allowable claim 20 and are also allowable.

Analysis regarding obviousness rejection of claims 24 – 27, 36, and 37.

The Office Action stated that claims 24-27, 36 and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Okuyama *et al.*

Okuyama *et al.* fails to satisfy the requisite *prima facie* criteria for rejecting a claim under 103 and as such, the rejection is respectfully traversed.

In particular, the Office Action states that Official Notice is taken with respect to claims 24-27, stating "that Okuyama *et al.* does not disclose the apparatus, wherein the obstacle detector comprises an infrared light source and detector" and that "Official Notice is taken with respect to infrared light sources being well known in the art to detect movement of an object." *See* Office Action at page 7. It is respectfully pointed out that *only* claim 25 discusses an infrared light source and detector. Therefore, the rejection with respect to claims 24 and 26-27, respectfully remain unaddressed and are assumed to be in allowable condition.

The Examiner's reliance on Official Notice with respect to claim 25 is respectfully misplaced as it is not considered to be common knowledge to use an infrared light source and detector as an obstacle detector in an apparatus for controlling the movement of a window, Accordingly, the rejection with respect to claim 25 is respectfully traversed. "If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding." *See* M.P.E.P. 2144.03(C) citing 37 C.F.R. 1.104(d)(2). Further, claims 24-27, 36, and 37 depend either directly or indirectly from nonobvious independent claim 20, 1, and 6, respectively, and are allowable as a result of their dependency and because of their own distinctive features. Accordingly, claims 24-27, 36 and 37 are in condition for allowance and a notice to that effect is respectfully requested.

Claim 28 features apparatus for controlling activation of a motor coupled to a motor vehicle window or panel as the window or panel moves along a travel path. The

motor is de-activated when the window or panel is within an acceptable range of a predetermined position. A sensor senses movement of the window or panel and provides a sensor output signal related to a position of the window or panel. A switch controllably actuates the motor by providing an energization signal.

A controller has an interface coupled to the sensor and the switch for controllably energizing the motor. The controller determines the position of the window or panel when power is applied to the controller by monitoring the sensor output signal from the sensor related to the position of the window or panel and identifying the position of the window or panel based on the sensor output signal from the sensor. The controller outputs a control signal to the switch to deactivate the motor in response to a sensing of said window or panel within the acceptable range.

Other than a broad statement that claim 28 is obvious due to the combination of Okuyama et al in view of Bamford, no explanation is contained in the July 23, 2008 office action with regard to claim 28. Since Bamford is not prior art to claim 28 this rejection is traversed. Claims 29 – 32 depend from allowable claim 28 and are allowable.

Commentary regarding the Bamford published application

In the July 23, 2008 office action (page 7) the Examiner asserts Bamford (EP 0 581 509) has a controller 6 for determining to deactivate the motor "based on a most recent sensor measurement of the parameter and the immediate past measurement values stored in the memory obtained during a present run through the motor driven element range or motion." This assertion is not correct.

Bamford references an update-map function where a "NEW" value of current is set equal to a PRESENT plus a linear combination of an OLD value. (See column 5, line 17). Reference to the flow chart of Figure 4, however, makes clear that this New value is not used during a current run. As taught by Bamford, "The current sensor senses the current at a number of successive positions of the window during its upward or downward movment." (COL 3, LINE 56). The system maintains a current vs time

map and uses time since actuation is used to determine position. As made clear in the figure 4 flowchart, a decision step is made whether the current exceeds a limit and the sensed current is either OK or NOT OK based on what is stored in the map. If the current is OK, then the 'UPDATE MAP' function is performed and the NEW current value calculated and stored in the MAP for that position, let us say position A, therefore stores a current map value A. The next test (loop through the flowchart) tests another current at another position, let us say position B. At position B, the sensed current value B is compared to a corresponding map value B and not to the most recent sensor measurement (i.e. map value A.) Therefore, the most recently updated current value is most definely not used to determine a fault. This is clearly evidenced by Bamford's continued use of the term "corresponding current in the map" See for example, Col 5, line 1; col 5, line 6. The Examiner should call the undersigned attorney if this explanation is not clear. The bottom line is that the previous value of current is not used to sense a fault during the current run.

All claims are believed to be in condition for allowance and prompt issuance of a Notice of Allowance is respectfully requested. If any fees are determined to be due, the commissioner is authorized to charge those fees to deposit account no 20-0090.

Respectfully submitted,

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